

REMARKS

STATUS OF THE CLAIMS

In accordance with the foregoing, claims 11, 12, 14-16, 18-20 and 22 have been amended. Claims 13, 17 and 21 have been cancelled. Claims 11, 12, 14-16, 18-20 and 22 are pending and under consideration.

No new matter is being presented, and approval of the amended claims is respectfully requested.

REASONS FOR ENTRY

The Applicant requests entry of this Rule 116 Response and Request for Reconsideration because at least certain of the rejected claims (claims 13, 17 and 21) have been cancelled thereby at least reducing the issues for appeal. Further, the amendments to the pending claims are intended to overcome the rejections under 35 U.S.C. §112 and to further clarify the patentable features of the present invention. The amendments were not earlier presented because the Applicant believed in good faith that the cited prior art did not disclose the present invention as previously claimed.

Moreover, the reference applied to the claims is newly cited in the final Office Action, and the Applicant should be provided the opportunity to present patentability arguments and amendments in view thereof.

Finally, the amendments do not significantly alter the scope of the claims and place the application at least into a better form for appeal. The Manual of Patent Examining Procedures sets forth in §714.12 that "[a]ny amendment that would place the case either in condition for allowance or in better form for appeal may be entered." (Underlining added for emphasis) Moreover, §714.13 sets forth that "[t]he Proposed Amendment should be given sufficient consideration to determine whether the claims are in condition for allowance and/or whether the issues on appeal are simplified." The Manual of Patent Examining Procedures further articulates that the reason for any non-entry should be explained expressly in the Advisory Action.

REJECTIONS UNDER 35 U.S.C. §112

On pages 2-3 of the Action, claims 11-22 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. Specifically, the

Examiner notes that the metes and bounds of the terms "via", "substantially" and "based on" cannot be determined.

Applicant notes that claims 13, 17 and 21 are cancelled herein and, thus, the rejections thereof are considered moot. Claims 11, 12, 14-16, 18-20 and 22 are amended herein to further clarify the features of the present invention and to further comply with the requirements of 35 U.S.C. §112, first paragraph. As a result the rejections thereof are respectfully overcome. Approval of the amended claims is respectfully requested.

On pages 3-4 of the Action, claims 11-22 are rejected under 35 U.S.C. §112, first paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. Specifically, the Examiner states that it is unclear how backing up data stored occurs "via a first address correspondence table", and it is unclear how "creating" occurs "based on the first address correspondence table". Finally, the Examiner states that the metes and bounds of "substantially equal to" cannot be determined.

Applicant notes that claims 13, 17 and 21 are cancelled herein and, thus, the rejections thereof are considered moot. Claims 11, 12, 14-16, 18-20 and 22 are amended herein to delete the rejected language described above. As a result, the rejections thereof are respectfully overcome. Approval of the amended claims is respectfully requested.

REJECTIONS OF CLAIMS 11-22 UNDER 35 U.S.C. §102(e) AS BEING ANTICIPATED BY TAKEDA ET AL. (U.S. PATENT NO. 7,076,620)

Claims 13, 17 and 21 are cancelled herein and, thus, the rejections thereof are considered moot. The rejections of claims 11, 12, 14-16, 18-20 and 22 are respectfully traversed and reconsideration is requested.

Takeda et al. (hereinafter "Takeda") relates to a technique of copying data to a host-based remote site by communicating data between storage devices within individual sites. Accordingly, it is possible to reduce host channel load as well as traffic on lines connecting hosts.

On the other hand, amended independent claim 11, for example, recites backing up all the actual data from the at least one physical storage to the backup medium without checking whether the block addresses of the at least one physical storage includes the actual data. (See Figs. 10-12 and the accompanying description of the present application, for support). That is, for example, embodiments of the present invention relate to backing up all blocks of a source disk without checking whether each of the blocks includes valid (actual) data.

In general, such a source disk is not filled with valid data. In other words, there are some

unused blocks with no valid data. In a typical (file) backup method, as discussed in Takeda, it is first checked whether each block of a source disk is a used or unused block. Then, if it is a used block (including valid data), that block is copied to a backup medium. Otherwise, it is not copied to the backup medium. According to this backup method, since only used blocks of a source disk are copied to a backup medium, it is possible to backup only valid data in the backup medium.

In contrast, according to the backup method as recited in independent claim 11, all blocks of a source disk are copied to a target medium without checking whether each block of the source disk is a used or unused block. Thus, it is possible to complete the backup operation faster due to the lack of need to check whether each of the blocks includes valid (actual) data. According to the present invention, as recited in independent claim 11, an address correspondence table is created between one or more block addresses of the actual data in the first virtual storage and sequential block addresses in the second virtual storage; the actual data is copied from the block addresses of the source physical storage to the sequential block addresses of the at least one physical storage in accordance with the created address correspondence tables; and all the actual data is backed up from the at least one physical storage to the backup medium without checking whether the block addresses of the at least one physical storage includes the actual data.

Therefore, by using an address correspondence table, as disclosed by embodiments of the present invention, it is possible to efficiently back up all actual data from the source disk to a backup medium without copying unused blocks. Accordingly, it is possible to backup at a high speed without a large-sized back-up medium (see page 10, lines 2-6, of the present specification, and Figs 10-12).

Therefore, it is respectfully submitted that independent claim 11 patentably distinguishes over the prior art. Independent claims 15 and 19 recited similar features to independent claim 11 and, thus, it is respectfully submitted that independent claims 15 and 19 patentably distinguish over the prior art, for at least the reasons provided above for independent claim 11.

Dependent claims 12-14, 16-18 and 20-22 inherit the patentability of their respective base claim and, thus, it is further submitted that the pending dependent claims also patentably distinguish over the prior art.

CONCLUSION

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot. Further, all pending

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claims patentably distinguish over the prior art. There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.


Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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